

Manufacturers' Shipments, Inventories, and Orders

December 1976



FOR RELEASE: February 1, 1977 2:00 P.M.
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SERIES: M3-1(76)-12

(All figures in text below are in seasonally adjusted current dollars)

New orders of \$106.2 billion were received by manufacturers' during December, a rise of 4.5 percent or \$4.6 billion from the November figure of \$101.6 billion, the Department of Commerce, Bureau of the Census reported today. This rise was heavily influenced by a rise in shipments of motor vehicles and parts, where new orders are essentially equal to shipments. This industry reported an 8.6 percent decline in shipments in December prior to seasonal adjustment. This is much less than the normal decline which has averaged about 22.5 percent over the last five years. This unusually small decline resulted in an increase in the seasonally adjusted shipments from \$8.0 billion in November to \$10.1 billion in December. This seasonally adjusted increase accounted for more than 40 percent of the total increase in new orders and more than half of the increase in shipments.

New orders for durable goods rose 7.7 percent (revised from the 6.6 percent previously reported) or \$4.0 billion to \$56.7 billion. The December increase in durable goods is the largest increase recorded during 1976 and is the fourth largest increase since 1970. Larger increases were recorded in December 1970 (12.5 percent), May 1974 (7.9 percent), and July 1975 (7.8 percent). New orders for nondurable goods rose 1.1 percent or \$0.6 billion to \$49.6 billion.

When the transportation industries are excluded from the durable goods total, new orders showed an increase of 3.6 percent or \$1.4 billion. Increases were recorded in many industries including electrical machinery (6.9 percent or \$0.4 billion), nonelectrical machinery (2.7 percent or \$0.3 billion), and fabricated metals (5.1 percent or \$0.3 billion). When the basic industries are regrouped into the supplemental categories, nondefense capital goods industries showed a 6.3 percent or \$0.8 billion increase to \$13.7 billion and defense capital goods showed a 9.9 percent or \$0.3 billion increase to \$3.7 billion.

As in November, manufacturing shipments in December showed the largest increases during the

year while inventories showed the smallest increases during the year. The November and December changes in shipments and inventories diverge from the pattern of inventory increases exceeding the shipments increases which prevailed during most of 1976.

Shipments of all manufactured products rose 3.6 percent or \$3.6 billion to \$164.2 billion. Shipments of durable goods rose 6.8 percent or \$10.1 billion while shipments of nondurable goods were \$49.3 billion, virtually unchanged from the \$49.1 billion reported for November.

Based on the preliminary December data in this report, annual shipments for 1976 for all manufacturing industries were \$1,183.4 billion or 13.0 percent above the 1975 shipments of \$1,047.6 billion. Durable goods shipments for the year totaled to \$605.8 billion, 14.9 percent above 1975 shipments of \$527.5 billion and nondurable goods shipments were \$577.6 billion or 11.1 percent above the 1975 shipments of \$520.1 billion.

Inventories held by manufacturers' were \$167.2 billion virtually unchanged from the \$167.1 billion reported at the end of November. Inventories held by durable goods manufacturers' rose \$0.2 billion or 0.2 percent to \$106.4 billion while inventories held by nondurable goods manufacturers' declined by \$0.2 billion or 0.3 percent. During 1976, inventories held by all manufacturers' rose 7.4 percent or \$11.5 billion from the \$155.7 billion reported at the end of 1975.

The backlog of unfilled orders for manufactured products rose \$2.0 billion or 1.2 percent from November to \$175.6 billion. A rise of \$1.5 billion or 4.8 percent in the defense capital goods industries accounted for most of the increases.

SCHEDULED RELEASE DATES

The advance report on durable goods for January is scheduled for release on February 22, 1977 and the full report is scheduled for release on March 3, 1977.

U.S. Department of Commerce BUREAU OF THE CENSUS

Inquiries concerning these figures should be addressed to the U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233. For sale by the Subscriber Services Section (Publications), Bureau of the Census, Washington, D.C. 20233 or any Department of Commerce District Office. Price: 30 cents per copy, \$3.60 per year.



Table 1.—USE OF MANUFACTURERS' SHIPMENTS, INVENTORIES, AND ORDERS, BY INDUSTRY GROUP

Industry group	Shipments									Total inventories					
	Seasonally adjusted			Without seasonal adjustment ¹			Seasonally adjusted			Without seasonal adjustment ¹					
	Dec. 1976 ^b	Nov. 1976 ^c	Oct. 1976	Dec. 1976 ^b	Nov. 1976 ^c	Dec. 1975	Dec. 1976 ^b	Nov. 1976 ^c	Oct. 1976	Dec. 1976 ^b	Nov. 1976 ^c	Dec. 1975	Dec. 1976 ^b	Nov. 1976 ^c	Dec. 1975
	1976 ^b	1976 ^c	1976	1976 ^b	1976 ^c	1975	1976 ^b	1976 ^c	1976	1976 ^b	1976 ^c	1975	1976 ^b	1976 ^c	1975
All manufacturing industries:															
Total.....	104,180	100,567	97,653	97,306	100,678	87,124	167,153	167,114	166,674	167,851	166,528	155,825			
Total, excluding transportation.....	90,255	88,862	87,489	85,670	88,413	77,741	147,204	147,068	146,851	147,783	146,267	136,802			
Durable goods industries, total.....	54,902	51,427	49,267	50,066	51,408	43,213	106,360	106,128	105,589	106,153	105,193	99,853			
Stone, clay, and glass products.....	2,742	2,569	2,471	2,353	2,573	2,060	4,122	4,130	4,092	4,043	3,944	3,776			
Primary metals, total.....	7,430	7,283	7,355	6,875	7,086	5,937	17,209	17,178	17,113	17,373	17,002	15,652			
Blast furnaces, steel mills.....	3,588	3,714	3,681	3,362	3,547	3,039	10,035	10,072	10,100	10,366	10,072	8,764			
Nonferrous and other primary metals.....	3,842	3,569	3,674	3,513	3,539	2,898	7,174	7,106	7,013	7,007	6,930	6,888			
Fabricated metal products, total.....	6,957	6,610	6,309	6,499	6,534	5,827	13,132	13,183	13,131	12,905	12,923	12,699			
Metal cans, barrels, and drums.....	571	556	568	480	483	463	1,118	1,085	1,106	1,009	982	952			
Machinery, except electrical, total.....	9,614	9,407	9,384	9,376	9,029	8,402	24,072	23,845	23,885	24,079	23,619	22,475			
Engines and turbines.....	881	861	895	1,064	815	848	1,828	1,805	1,800	1,833	1,833	1,664			
Farm machinery and equipment.....	938	854	693	738	704	630	2,270	2,252	2,389	2,257	2,153	2,309			
Construction, mining, and material handling equipment.....	1,717	1,660	1,628	1,523	1,552	1,456	5,576	5,737	5,657	5,609	5,623	5,654			
Metallworking machinery.....	561	550	528	589	514	580	1,541	1,531	1,521	1,528	1,541	1,673			
General industrial machinery.....	854	809	767	860	778	721	2,314	2,463	2,476	2,462	2,418	2,349			
Electrical machinery, total.....	6,291	6,273	6,033	6,156	6,407	5,330	14,069	14,009	13,961	13,935	13,870	12,702			
Electrical transmission and distribution equipment and industrial apparatus.....	1,075	1,163	1,133	1,066	1,161	991	2,874	2,817	2,767	2,871	2,807	2,521			
Household appliances.....	800	879	829	732	835	710	1,579	1,537	1,585	1,580	1,494	1,382			
Radio and TV.....	465	444	455	484	525	457	825	849	834	790	826	809			
Communication equipment.....	1,663	1,649	1,581	1,719	1,657	1,319	4,204	4,224	4,206	4,183	4,220	3,879			
Transportation equipment, total.....	13,935	11,705	10,164	11,618	12,265	9,383	19,949	20,046	19,823	20,068	20,261	19,024			
Motor vehicles and parts.....	10,056	8,004	6,483	7,940	8,687	5,724	6,846	6,974	6,764	6,928	7,086	6,049			
Aircraft, missiles, and parts.....	2,434	2,310	2,434	2,441	2,308	2,331	10,323	10,391	10,358	10,305	10,459	10,399			
Shipbuilding and military tank vehicles.....	597	648	596	597	602	609	1,244	1,240	1,297	1,301	1,293	1,285			
Instruments and related products, total.....	2,151	2,123	2,068	2,151	2,210	2,015	4,565	4,581	4,524	4,525	4,511	4,446			
Scientific and engineering.....	1,232	1,256	1,234	1,210	1,255	1,165	2,801	2,863	2,824	2,837	2,845	2,624			
Photographic goods.....	742	714	685	775	789	681	1,276	1,234	1,217	1,213	1,208	1,181			
All other durable goods industries.....	5,782	5,457	5,483	5,038	5,304	4,259	9,242	9,156	9,060	9,125	9,043	8,279			
Nondurable goods industries, total.....	40,288	49,140	48,386	47,740	49,270	43,911	60,793	60,986	61,085	61,698	61,355	55,971			
Food and kindred products, total.....	14,221	14,744	14,778	14,718	14,994	14,070	15,580	15,694	15,876	16,333	16,624	14,971			
Meat products.....	4,752	3,639	3,658	3,732	3,668	3,812	1,419	1,347	1,356	1,402	1,382	1,246			
Fats and oils.....	1,363	1,380	1,368	1,324	1,431	1,222	1,812	1,743	1,765	2,099	2,050	1,491			
Tobacco products.....	764	640	749	762	650	685	3,481	3,640	3,659	3,718	3,637	3,516			
Textile mill products.....	3,227	3,143	2,974	3,023	3,201	2,919	5,284	5,176	5,158	5,149	5,134	4,997			
Paper and allied products, total.....	4,131	4,153	4,137	3,949	4,140	3,708	5,147	5,297	5,228	5,191	5,142	4,681			
Pulp, paper, etc.....	1,877	1,809	1,835	1,746	1,810	1,674	1,960	2,071	2,040	1,961	1,941	1,829			
Paperboard containers.....	1,013	1,003	1,007	953	1,003	888	1,327	1,169	1,175	1,225	1,173	1,121			
All other paper products.....	1,341	1,341	1,297	1,250	1,327	1,146	1,860	1,857	1,813	1,899	1,868	1,628			
Chemicals and allied products, total.....	8,675	8,827	8,361	8,011	8,249	7,071	13,011	13,088	13,160	13,100	12,987	11,876			
Industrial chemicals, except pigments.....	7,904	3,114	2,931	2,756	2,878	2,494	1,922	1,906	1,896	1,884	1,881	1,804			
Drugs, soap, and toiletries.....	1,194	2,117	2,020	2,076	2,076	1,764	1,390	1,817	1,765	1,728	1,713	1,604			
Petroleum and coal products, total.....	7,154	7,154	7,161	7,161	7,158	6,448	6,154	6,154	6,154	6,154	6,154	6,154			
Rubber and plastics products, net.....	7,678	1,806	2,690	2,612	2,763	2,235	1,887	1,887	1,887	1,887	1,887	1,887			
All other nondurable goods industries.....	6,688	7,671	5,514	7,004	8,111	6,488	9,244	9,198	9,133	9,133	8,897	7,971			

See footnotes at end of table.

Table 1.-VALUE OF MANUFACTURERS' SHIPMENTS, INVENTORIES, AND ORDERS, BY INDUSTRY GROUP (Continued)

Millions of dollars

Industry group	New orders						Unfilled orders					
	Seasonally adjusted			Without seasonal adjustment ¹			Seasonally adjusted			Without seasonal adjustment ¹		
	Dec. 1976 ^p	Nov. 1976 ^p	Oct. 1976	Dec. 1976 ^p	Nov. 1976 ^p	Dec. 1975	Dec. 1976 ^p	Nov. 1976 ^p	Oct. 1976	Dec. 1976 ^p	Nov. 1976 ^p	Dec. 1975
All manufacturing industries:												
Total.....	106,223	101,619	99,702	98,828	100,809	85,857	175,639	173,605	172,553	174,404	172,917	170,243
Total, excluding transportation.....	91,231	89,241	88,186	86,110	88,183	76,527	122,866	121,888	121,510	121,387	120,974	119,825
Durable goods industries, total.....	56,660	52,611	51,078	51,474	51,633	42,026	167,551	165,791	164,607	166,687	165,311	162,726
Primary metals, total.....	7,392	7,529	7,019	7,077	7,335	6,397	16,013	16,051	15,804	15,746	15,545	14,519
Blast furnaces, steel mills.....	3,824	3,650	3,485	3,754	3,533	3,538	10,004	9,768	9,832	9,974	9,582	9,254
Nonferrous and other primary metal products.....	2,775	3,080	2,790	2,631	3,018	2,271	5,004	5,261	4,932	4,758	4,935	3,890
Fabricated metal products.....	7,149	6,805	6,425	6,558	6,392	5,639	23,385	23,192	22,997	23,170	23,113	23,493
Machinery, except electrical, total.....	9,590	9,336	9,413	9,260	9,039	7,416	43,823	43,843	43,914	43,675	43,812	45,300
Engines and turbines.....	366	747	1,129	837	747	624	16,292	16,806	16,920	16,351	16,578	15,956
Construction, mining, and material handling equipment.....	1,732	1,674	1,529	1,475	1,565	1,161	6,376	6,360	6,347	6,319	6,367	7,734
Metallworking machinery.....	687	763	558	672	711	484	2,936	2,809	2,596	2,915	2,832	2,616
General industrial machinery.....	870	715	737	806	735	743	6,394	6,378	6,472	6,387	6,441	6,879
Electrical machinery, total.....	6,848	6,408	6,463	6,495	6,227	4,917	23,367	22,812	22,678	23,189	22,852	21,082
Electrical transmission and distribution equipment and industrial apparatus.....	1,270	1,157	1,142	1,230	1,114	886	6,015	5,822	5,828	5,977	5,813	5,952
Household appliances.....	840	909	830	771	823	714	295	256	225	264	225	201
Radio and TV.....	425	452	564	455	462	442	484	524	517	465	495	453
Communication equipment.....	2,053	1,792	1,877	1,915	1,698	1,068	10,742	10,351	10,209	10,710	10,515	8,944
Transportation equipment, total.....	14,992	12,378	11,516	12,718	12,626	9,330	52,773	51,717	51,043	53,017	51,943	50,418
Aircraft, missiles, and parts.....	3,297	3,069	3,624	3,381	2,713	2,345	34,689	33,825	33,067	34,958	34,045	33,336
Shipbuilding and military tank vehicles.....	861	553	702	728	557	412	10,230	9,967	10,061	10,057	9,925	9,739
All other durable goods industries.....	10,689	10,155	10,242	9,386	10,014	8,327	8,190	8,176	8,171	7,890	8,046	7,914
Nondurable goods industries, total.....	49,563	49,008	48,624	47,354	49,176	43,831	8,088	7,814	7,946	7,717	7,606	7,517
Industries with unfilled orders.....	11,888	11,243	11,424	11,172	11,571	9,588	8,088	7,814	7,946	7,717	7,606	7,517
Industries without unfilled orders.....	37,675	37,765	37,200	36,182	37,605	34,243	-	-	-	-	-	-

^p Represents zero. ^P Preliminary. ^R Revised.¹ Adjusted for trading-day and calendar-month variations.

Table 2.-VALUE OF MANUFACTURERS' SHIPMENTS, INVENTORIES, AND ORDERS, FOR MARKET CATEGORIES AND SUPPLEMENTARY SERIES

/Millions of dollars

Industry group	Seasonally adjusted			Without seasonal adjustment ¹			Seasonally adjusted			Without seasonal adjustment		
	Dec. 1976 ^b	Nov. 1976 ^c	Oct. 1976	Dec. 1976 ^b	Nov. 1976 ^c	Dec. 1975	Dec. 1976 ^b	Nov. 1976 ^c	Oct. 1976	Dec. 1976 ^b	Nov. 1976 ^c	Dec. 1975
	Shipments						Total inventories					
All manufacturing industries, total..	104,190	100,567	97,653	97,306	100,678	87,124	167,153	167,114	166,674	167,851	166,528	155,825
Durable goods industries, total.....	54,902	51,427	49,267	50,066	51,408	43,213	106,360	106,128	105,589	106,153	105,193	99,853
Nondurable goods industries, total.....	49,288	49,140	48,386	47,240	49,270	43,911	60,793	60,986	61,085	61,698	61,335	55,972
Industry groups arranged by market categories:												
Home goods and apparel.....	8,479	8,431	8,111	7,379	8,712	6,898	14,101	14,143	14,377	13,859	13,783	12,774
Consumer staples.....	18,209	18,268	18,276	18,103	18,621	17,132	23,052	23,367	23,466	23,694	23,838	22,136
Equipment and defense products, except automotive.....	14,245	14,004	13,863	14,051	13,540	12,794	39,049	38,943	38,875	38,961	38,754	38,262
Automotive equipment.....	11,744	9,603	8,014	9,306	10,168	6,803	8,996	8,993	8,692	9,055	9,055	7,929
Construction materials, supplies, and intermediate products.....	8,929	8,505	8,431	8,016	8,343	6,970	14,064	13,983	13,884	13,944	13,693	13,198
Other materials and supplies and intermediate products.....	42,584	41,756	40,958	40,451	41,294	36,528	67,891	67,685	67,380	68,338	67,405	61,527
Supplementary series: ²												
Household durable goods industries.....	3,311	3,263	3,202	3,055	3,324	2,899	7,001	6,996	7,059	6,933	6,845	6,509
Capital goods industries.....	15,901	15,639	15,609	15,795	15,402	14,296	43,353	43,124	42,942	43,278	43,039	42,077
Nondefense.....	13,691	13,350	13,320	13,506	13,198	12,189	36,418	36,277	36,095	36,315	36,133	35,672
Defense.....	2,210	2,289	2,289	2,291	2,204	2,107	6,935	6,847	6,847	6,963	6,906	6,405
	New orders						Unfilled orders					
All manufacturing industries, total..	106,223	101,619	99,702	98,828	100,809	85,857	175,639	173,605	172,553	174,404	172,917	170,243
Durable goods industries, total.....	56,660	52,611	51,078	51,474	51,633	42,026	167,551	165,791	164,607	166,687	165,311	162,726
Nondurable goods industries, total.....	49,563	49,008	48,624	47,354	49,176	43,831	8,088	7,814	7,946	7,717	7,606	7,517
Industry groups arranged by market categories:												
Home goods and apparel.....	8,436	8,433	8,289	7,217	8,615	6,813	3,257	3,303	3,324	3,083	3,243	3,042
Consumer staples.....	18,207	18,245	18,248	18,108	18,613	17,143						
Equipment and defense products, except automotive.....	15,600	14,273	15,406	15,236	13,228	11,779						
Automotive equipment.....	11,809	9,628	8,036	9,468	10,224	7,000	101,404	99,984	99,689	101,388	100,052	98,681
Construction materials, supplies, and intermediate products.....	9,123	8,721	8,435	8,138	8,342	6,899	18,030	17,836	17,620	17,879	17,758	19,025
Other materials and supplies and intermediate products.....	43,048	42,319	41,288	40,661	41,787	36,224	52,948	52,482	51,920	52,054	51,864	49,494
Supplementary series: ²												
Household durable goods industries.....	3,254	3,284	3,379	2,903	3,202	2,832	2,593	2,650	2,629	2,424	2,577	2,458
Capital goods industries.....	17,403	16,251	17,288	16,875	15,496	12,704	110,399	108,895	108,283	110,165	109,114	108,271
Nondefense.....	13,695	12,878	14,302	13,135	12,641	10,679	77,931	77,925	78,398	77,738	78,137	79,114
Defense.....	3,708	3,373	2,986	3,740	2,855	2,025	32,468	30,970	29,885	32,427	30,977	29,157

¹During 1968 manufacturers in ordnance, communications, aircraft and aircraft parts, and shipbuilding industries began to provide aggregate figures on shipments, orders, and total inventories of work performed for the Department of Defense. The results of these reports are included in the defense series. ²Preliminary. ³Revised.

⁴Shipments and new orders adjusted for trading-day and calendar-month variations; unfilled orders and inventories as of end of month.

⁵The supplementary series are regroupings of the separate industry categories as follows:

Household durable goods industries - Household furniture, kitchen articles and pottery, cutlery, handtools, and hardware, household appliances; ophthalmic goods, watches, clocks, watchcases; and miscellaneous personal goods.

Capital goods industries - The capital goods industries series is comparable to the previous Producers' Capital Goods and the Defense Products (old series) categories.

Nondefense industries - Machinery, except electrical (excluding farm machinery and equipment and machine shops), electrical machinery (excluding household appliances and electronic components), railroad equipment and the nondefense portions of shipbuilding and military tank vehicles, communication equipment, aircraft, aircraft parts and ordnance.

Defense products (new series) - Based on separate reports on defense work filed by large defense contractors in the following industries: ordnance, communications, complete aircraft, aircraft parts, and shipbuilding and military tank vehicles. The data are comparable to those published annually in the NA-175, Shipments of Defense-Oriented Industries, for the specified industries.

Table 3.--MANUFACTURERS' SHIPMENTS, INVENTORIES, AND ORDERS MONTH-TO-MONTH AND LONG TERM PERCENT CHANGES

(Based on seasonally adjusted data)

Item and industry group	Month-to-month			Average monthly rates of change				Average, 1970-1975	
	Nov.- Dec. 1976	Oct.- Nov. 1976	Sept.- Oct. 1976	3 months			12 months Dec. 1975- Dec. 1976	Average rise	Average decline
				Sept.- Dec. 1976	June- Sept. 1976	March- June 1976			
Shipments:									
All manufacturing industries.....	+3.6	+3.0	-1.1	+1.8	-0.1	+0.4	+1.0	+1.4	-1.2
Durable goods industries, total.....	+6.8	+4.4	-1.6	+3.2	-0.3	+0.1	+1.4	+1.6	-1.4
Nondurable goods industries, total.....	+0.3	+1.6	-0.7	+0.4	+0.3	+0.6	+0.6	+1.5	-1.1
Total inventories:									
All manufacturing industries.....	0.0	+0.3	+1.0	+0.4	+0.8	+0.8	+0.6	+1.0	-0.3
New orders:									
All manufacturing industries.....	+4.5	+1.9	+0.8	+2.4	-0.2	+0.3	+1.2	+1.7	-1.7
Durable goods industries, total.....	+7.7	+3.0	+2.0	+4.2	-0.8	+0.1	+1.8	+2.4	-2.6
Nondurable goods industries, total.....	+1.1	+0.8	-0.4	+0.5	+0.4	+0.6	+0.7	+1.7	-1.0
Unfilled orders:									
Durable goods industries, total.....	+1.1	+0.7	+1.1	+1.0	-0.2	+0.3	+0.2	+1.6	-1.0

Table 4.--VALUE OF MANUFACTURERS' INVENTORIES, BY STAGE OF FABRICATION, BY INDUSTRY GROUP

(Millions of dollars)

Industry group	Seasonally adjusted			Without seasonal adjustment			Seasonally adjusted			Without seasonal adjustment		
	Dec. 1976 ^P	Nov. 1976 ^P	Oct. 1976	Dec. 1976 ^P	Nov. 1976 ^P	Dec. 1975	Dec. 1976 ^P	Nov. 1976 ^P	Oct. 1976	Dec. 1976 ^P	Nov. 1976 ^P	Dec. 1975
	Total						Materials and supplies					
All manufacturing industries, total..	167,153	167,114	166,674	167,851	166,528	155,825	60,768	61,163	61,927	61,912	61,168	57,105
Durable goods industries, total.....	106,360	106,128	105,589	106,153	105,193	99,853	34,790	35,320	35,047	35,368	35,323	33,614
Stone, clay, and glass products.....	4,122	4,130	4,092	4,043	3,944	3,776	1,361	1,360	1,358	1,367	1,343	1,371
Primary metals.....	17,209	17,178	17,113	17,373	17,002	15,652	8,006	7,864	7,907	8,229	8,008	7,418
Machinery (electrical and nonelectrical)	38,141	37,854	37,846	38,014	37,489	36,177	10,573	11,013	10,872	10,618	10,788	10,662
Transportation equipment.....	19,949	20,046	19,823	20,068	20,261	19,024	5,092	5,264	5,164	5,267	5,368	4,907
All other durable goods industries.....	26,939	26,920	26,715	26,655	26,497	25,224	9,758	9,819	9,746	9,887	9,816	9,256
Nondurable goods industries, total.....	60,793	60,980	61,085	61,698	61,335	55,972	25,978	25,843	26,880	26,544	25,845	23,491
Chemicals and allied products.....	13,011	13,088	13,040	13,205	12,962	11,876	5,374	5,256	5,083	5,364	5,205	4,965
Petroleum and coal products.....	5,154	5,053	5,058	5,147	5,163	4,518	1,847	1,808	1,756	1,795	1,774	1,320
Rubber and plastics products, n.e.c.....	3,887	3,855	3,763	3,935	3,796	3,689	1,621	1,632	1,597	1,642	1,607	1,340
All other nondurable goods industries.....	38,741	38,990	39,224	39,411	39,434	35,889	17,136	17,147	18,444	17,743	17,259	15,866
	Work in process						Finished goods					
All manufacturing industries, total..	52,357	52,176	51,151	51,900	52,047	49,021	54,028	53,775	53,596	54,039	53,313	49,698
Durable goods industries, total.....	43,123	43,005	42,627	42,742	42,854	40,898	28,447	27,803	27,915	28,043	27,016	25,339
Stone, clay, and glass products.....	610	640	637	573	588	489	2,151	2,130	2,097	2,103	2,013	1,916
Primary metals.....	5,864	5,967	5,828	5,779	5,749	5,145	3,339	3,347	3,378	3,365	3,245	3,089
Machinery (electrical and nonelectrical)	16,343	16,112	15,929	16,257	16,121	15,603	11,225	10,729	11,045	11,139	10,580	9,911
Transportation equipment.....	12,200	12,160	12,163	12,165	12,290	11,908	2,657	2,622	2,496	2,636	2,603	2,208
All other durable goods industries.....	8,106	8,126	8,070	7,968	8,106	7,753	9,075	8,975	8,899	8,800	8,575	8,215
Nondurable goods industries, total.....	9,234	9,171	8,524	9,158	9,193	8,123	25,581	25,972	25,681	25,996	26,297	24,359
Chemicals and allied products.....	2,124	2,169	2,152	2,114	2,137	1,872	5,513	5,663	5,805	5,727	5,620	5,039
Petroleum and coal products, n.e.c.....	1,167	1,158	1,104	1,160	1,156	1,024	2,140	2,087	2,198	2,192	2,213	2,174
Rubber and plastics products, n.e.c.....	681	706	704	687	695	574	1,585	1,517	1,462	1,606	1,494	1,775
All other nondurable goods industries.....	5,262	5,138	4,564	5,197	5,205	4,653	16,343	16,705	16,216	16,471	16,970	15,371

^PPreliminary.^TRevised.

Table 12--RATIO OF MANUFACTURERS' INVENTORIES TO SHIPMENTS AND UNFILLED ORDERS TO SHIPMENTS, BY INDUSTRY GROUP

(Based on seasonally adjusted data)

Industry group	Inventories - shipments ratio				Unfilled orders - shipments ratio ¹ 'months' backlog			
	Dec. 1976 ^b	Nov. 1976 ^c	Oct. 1976	Dec. 1975	Dec. 1976 ^b	Nov. 1976 ^c	Oct. 1976	Dec. 1975
All manufacturing industries, total.....	1.60	1.66	1.71	1.68	3.33	3.38	3.51	3.63
Durable goods industries, total.....	1.94	2.06	2.14	2.14	3.98	4.05	4.25	4.40
Stone, clay, and glass products.....	1.50	1.61	1.66	1.61	0.95	1.00	1.08	1.23
Primary metals.....	2.32	2.36	2.33	2.38	2.16	2.20	2.15	2.30
Fabricated metals.....	1.89	1.99	2.08	2.07	3.66	3.83	4.01	4.16
Machinery, except electrical.....	2.50	2.53	2.55	2.77	5.05	5.13	5.05	5.92
Electrical machinery.....	2.24	2.23	2.31	2.37	3.71	3.64	3.76	3.90
Transportation equipment.....	1.43	1.71	1.95	1.75	8.60	8.93	9.49	9.98
Instruments and related products.....	2.12	2.16	2.19	2.12	1.72	1.72	1.71	1.67
Nondurable goods industries, total.....	1.23	1.24	1.26	1.21	0.76	0.75	0.77	0.78
Food and kindred products.....	1.07	1.06	1.07	1.02	(X)	(X)	(X)	(X)
Tobacco products.....	4.56	5.67	4.89	4.80	(X)	(X)	(X)	(X)
Textile mill products.....	1.64	1.65	1.73	1.55	(NA)	(NA)	(NA)	(NA)
Paper and allied products.....	1.22	1.27	1.26	1.17	(NA)	(NA)	(NA)	(NA)
Chemicals and allied products.....	1.50	1.48	1.56	1.46	(X)	(X)	(X)	(X)
Petroleum and coal products.....	0.70	0.71	0.71	0.73	(X)	(X)	(X)	(X)
Rubber and plastics products, n.e.c.....	1.36	1.37	1.40	1.49	(X)	(X)	(X)	(X)

NA Not available. P Preliminary. R Revised.

X Not applicable.

¹Excludes the following industries with no unfilled orders: Wood and lumber products; glass containers; metal cans, barrels and drums; motor vehicles assembly operations; foods and related products; tobacco; apparel and related products; chemicals; petroleum and coal products; and rubber and plastics products, n.e.c.

Appendix

The following is a description of the survey and definitions used. These are provided to clarify the meaning of the items involved and do not represent any revisions from those definitions previously employed.

DESCRIPTION OF SURVEY

The Manufacturers' Shipments, Inventories, and Orders survey provides monthly figures that are comparable to the annual totals published each year in the Annual Survey of Manufactures (ASM). The ASM is based on a sample of approximately 60,000 manufacturing establishments drawn from the 5-year census universe of about 310,000 establishments. In the ASM, each manufacturing establishment provides data on employment, payrolls, shipments, cost of materials, capital expenditures, and inventories as well as other selected items. The establishments do not provide information on unfilled orders or new orders. Since the ASM is establishment based, it provides data for each of the 425 manufacturing industries in the Standard Industrial Classification System (SIC) and area data for industry groups.

The monthly survey M3-1 does not provide information at the complete SIC industry detail because of the smaller size of the reporting panel and the fact that most companies cannot provide shipments, inventories, and orders data monthly for individual establishments.

The monthly reporting panel consists of approximately 5,000 reporting units and includes virtually all companies with 1,000 or more employees and a sample of the smaller ones. The reporting unit typically comprises the entire operations of a company although many of the larger diversified companies file separate divisional type reports for their operations in different industries.

Most of the reporting units include mixed industry activity even within the broad industry categories of the monthly survey. The survey methodology assumes that the month-to-month changes of the reporting units classified in each industry category represent effectively the month-to-month movements of the establishments in the SIC industries which make up the category. Thus, the monthly reports are used to update the ASM estimates by using a link relative of matched companies in each industry.

EXPLANATION OF TERMS

Value of Shipments Shipments in the monthly survey are equivalent to value of shipments as reported

in the ASM which are received or receivable net selling values, f.o.b. plant, after discounts and allowances and excluding freight charges and excise taxes. Included in shipments are the value of all products sold, transferred to other plants of the same company, or shipped on consignment.

Shipments also include receipts of establishments in the industry for contract work performed for others, resales, receipts for miscellaneous activities such as the sale of scrap and refuse; value of installation and repair work performed by employees of the plant; and value of research and development performed at the plant. In the aircraft industry and shipbuilding, the value of work done in a given year varies considerably from the value of shipments because of the long lead time between the input of the materials and labor and the shipments of the completed aircraft or ship. In the annual survey, therefore, the value of work done during the year is requested rather than the value of shipments.

The value of shipments figures developed from the ASM contain duplication at the all manufacturing and industry group levels since the products of some industries are used as materials by other industries within the industry group. With the exception of motor vehicles, it is not significant at the 4-digit SIC group level. Since the M3-1 industry categories typically are groupings of industries, this duplication is significant for the all manufacturing, durable goods and nondurable goods categories and the various market groups. The significance of the duplication within the specific M3-1 industry groups varies depending on the 4-digit industry composition of these groups. It is most pronounced in a few highly integrated industry areas such as primary metals and motor vehicles and parts.

Since most monthly reports are for the entire company or major divisions rather than establishments, the companies are requested to report net sales, i.e., total company billings after discounts and allowances. Companies which file divisional reports are requested to treat transfers from one division of the company to another as if they were net sales to outside customers. Although this definition of shipments in the monthly reports differs from that used in the annual establishment reports, it is assumed that the month-to-month changes in company sales in the industry are representative of the month-to-month shipments of the establishments in the industry.

Inventories End-of-month inventories in the monthly survey are identical in definition to the end-of-year inventories in the ASM. In the ASM, respondents are asked to report inventories of individual establishments at approximate current cost if

feasible; otherwise, "at book values." Since different methods of inventory valuation are used (LIFO, FIFO, etc.), the definition of the aggregate inventories for establishments in an industry is not precise. The figures on the change in inventories from one period to the next are of greater significance than the actual aggregates.

Inventories are reported by stage of fabrication: (a) finished goods; (b) work in process; and (c) materials, supplies, fuel, and other inventories. In using inventories by stage of fabrication at the all manufacturing and 2-digit industry levels as well as for the durable and nondurable goods sectors, it should be noted that a finished product of one industry may be a raw material for another industry at the next stage of fabrication. Insofar as the durable and nondurable goods sectors and also the 2-digit industry groups contain industries with successive stages of processing, the same type of commodity may be included under different inventory categories in the aggregate statistics.

New Orders Received and Unfilled Orders—Orders as reported in the monthly survey are net of cancellations during the month. They include orders received during the period and also filled during the period as well as those orders received for future delivery. They

also include the net sales value of contract change documents which increase or decrease the sales value of the unfilled orders to which they relate. Orders include only those supported by binding legal documents such as signed contracts, or letter contracts. In case of letter contracts the full amount of the sales value is included if the parties are in substantial agreement on the amount; otherwise, only the funds specifically authorized to be expended are included. The respondent is instructed to deduct the sales value of partial or complete cancellation of existing orders.

Unfilled orders include orders as defined above that have not yet passed through the sales account. Generally, unfilled orders at the end of the reporting period are equal to unfilled orders at the beginning of the period plus net new orders received less net sales.

While both new orders and unfilled orders are used in reviewing individual company reports for consistency, only unfilled orders are estimated directly in the tabulated totals. New orders are derived from the shipments plus net change in unfilled orders for each industry category. This procedure is followed for seasonally adjusted data as well as for the unadjusted data. Shipments and unfilled orders are seasonally adjusted independently. Seasonally adjusted new orders are derived from seasonally adjusted shipments and seasonally adjusted unfilled orders.